PAN AMERICAN fisherman

ESTABLISHED 1947

JANUARY 1956

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In this issue . . . THE TUNA PROBLEM • THE SARDINE SITUATION
CURRENT ACTIVITIES ON ALBACORE

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PAN AMERICAN FISHERMAN

alifornia Landings

gures just released by FWS show landings of commercially-caught and shellfish at California ports ıg July 1955 amounted to 48.8 on pounds—a decrease of 28% ɔared with the 67.8 million ıds reported for July of last year.

ıe principal cause for the decline a 44% drop in the landings of and tunalike fishes. Neverthe- the species comprising the tuna ıp still led all other items dur- July 1955 with 26.1 million ıds—53% of the month's total luction.

ther species of major impor- e during July of this year were mackerel (8.2 million pounds), ıovies (3.0 million pounds), Pacific mackerel (2.9 million nds).

otal landings for the first seven ıths of 1955 amounted to 248.8 ion pounds, compared with 274.4 lion pounds reported for the same period of last year. This represents a decrease of 9%.

Landings of fish and shellfish at California ports during June 1955 amounted to 47.9 million pounds—an increase of 4.6 million pounds (11%), compared with the receipts during June 1954. The catch of domestically-produced tuna and tunalike fishes (33.8 million pounds), accounted for 70% of the month's total landings with receipts of these species being 4% above the landings during June of last year. Other important species taken during the month were anchovies (2.8 million pounds), salmon (2.8 million pounds), and sole (2.2 million pounds).

Total landings for the first half of 1955 amounted to 199.5 million pounds, compared with 206.6 million pounds reported for the same period of last year—a decrease of 7.1 million pounds or 3%.

Another Boat Lost

The American tuna clipper *Sun Traveler* based in San Diego, sank aften an explosion and fire 65 miles off the north coast of Peru, December 25.

The 13 crewmen, including Skipper Jose Nunez Pombo, took to a small boat and were rescued by a Peruvian fishing craft.

All-Nylon Purse Seine

The *Anthony M*, the largest known tuna purse seiner in the world and operating in the California tuna fishery, is now being equipped with an all-nylon tuna purse seine, which is the first known tune net of all-nylon webbing.

The nylon web was manufactured by a netting company and the price was not revealed. The net, which is approximately 450 fathoms in length, will weigh much less than one-half of the standard cotton purse seine and is completely impervious to the weather and the elements.

The *Anthony M* also has been equipped with a new light-weight "Puretic Power Block," for hauling the net a board after a set.

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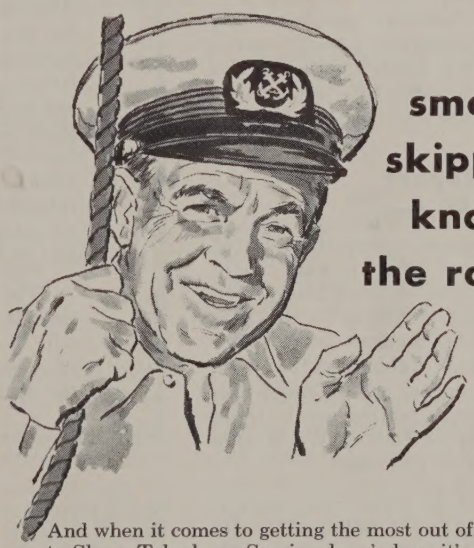

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Pacific Telephone

Tuna Volume for '55

The annual report of the San Pedro office of the U.S. Fish and Wildlife Service shows that the quantity of tuna processed in 1955 by the canneries of Southern California was slightly below the 1954 figure. At the same time the report shows that imports of tuna fish increased by nearly 30%.

Total tuna for San Pedro during the year amounted to 121,102 tons. Imports from Japan accounted for 38,434 tons of this amount.

In 1954 imports amounted to 29,-267 tons of the year's total of 125,-245 tons.

The imported fish not only are a market handicap for California fishermen, but in addition the local toilers receive less maney for their hauls. The 1955 prices were from $60 to $80 a ton less than those of 1954.

As a fishing port, San Diego continued second to San Pedro. The southern port processed 44,150 tons of tuna in 1955, compared with 69,-101 tons in 1954. But this figure included only 5899 tons of imported fish.

Increased tonnage of imported Japanese and South American fish kept many American tuna boats idle during the past year . . . with catches frozen in their holds while canneries processed foreign fish which they could buy for less.

Cruise Report on Pink Shrimp

Pink shrimp, commonly referred to as "cocktail" shrimp, were caught off the Washington Coast from Ocean Park to Cape Johnson by the Fish and Wildlife Service's exploratory vessel *John N. Cobb*. The four-week cruise for shrimp which ended November 10 was carried out in cooperation with the State of Washington Department of Fisheries.

A total of 52 drags were made at depths of 21 to 116 fathoms, 45 with a 20-foot beam trawl having 1¼-inch stretched-mesh netting and 7 with a small West Coast box-type otter trawl having a 1¼-inch stretched mesh cod end.

The best catches of shrimp with the beam trawl were made off Grays Harbor where 5 drags at 49 to 71 fathoms caught from 75 to 140 pounds of pink shrimp per drag, and off the Queets River where 5 drags at 57 to 88 fathoms caught from 80 to 150 pounds per drag. Off Willapa Bay 15 drags at 34 to 116 fathoms caught from 14 to 130 pounds of pink shrimp per drag. Side-stripe shrimp were taken in significant quantities in several of the deeper drags. Each of these 25 drags was of one-hour duration.

Drags with the otter trawl off Copalis Head at 48 to 80 fathoms caught from 240 to 600 pounds of pink shrimp per one-hour drag. The main purpose of using the otter trawl was to compare its effectiveness with that of the beam trawl. While t otter trawl proved to be more ef cient than the beam trawl in taki shrimp, catches with this gear al contained considerable quantities bottom fish which were difficult separate from the shrimp. Catch with the beam trawl generally co tained only small quantities of b tom fish along with the shrimp.

The pink shrimp were small, ra ing from 115 to 164 whole (hea on) shrimp per pound for vario individual drags.

TUNA CANNERS VIEW 1955-56

Despite a year marked with problems, the Southern California tuna canners report a satisfactory year volume-wise with a slight increase in sales over 1954.

Figures released by the California Fish Canners Association show that member companies in the Terminal Island and San Diego areas packed and sold well over eight million cases during 1955.

The sales figures were achieved in spite of increasing imports and an eight week strike by the cannery workers union which closed down operations at both Terminal Island and San Diego.

During the strike period, September 3 through October 29, scores of boats were tied up at the docks. Since that time most of the fleet is out fishing again, disregarding the traditional Christmas holidays at home.

Two annual promotions, "Summertime Is Tuna Time" and National Tuna Week, pinpointed with special publicity programs together with institutional and member advertising highlighting the campaigns, helped the movement of millions of cans of tuna. The promotion and advertising expenditures of the Association and its individual member companies during 1955 was in excess of $9,000,000.

Plans for Year 1956

"The forecast for 1956 looks bright," said Charles R. Carry, Executive Director of the California Fish Canners Association. "With the cannery workers contract signed for the next two years, individual canners may plan production accordingly without the threat of work stoppage. Prices to the consumer have reflected lower fish costs and are more competitive with other high protein foods. A huge push is planned to offer the homemaker bargain tuna months starting immediately and continuing through the Lenten season. Special promotions are in the making with related foods tieing in on advertising campaigns and individual programs are being arranged with cooperating firms and industries.

"The Lenten campaign will be followed by the 'Summertime Is Tuna Time' promotion, and National Tuna Week will be held late in 1956. It will be an 'all out' effort to increase the national consumption of tuna for 1956 over the current year."

PAN AMERICAN Fisherman

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About This Issue . . .

TUNA problems, like the poor, are always with us. Condensed from a long statement prepared for a government hearing in Washington, the views of Harold Cary and the American Tunaboat Association are plainly stated on pages 10 and 11.

*

Another month of picketing and bickering at Terminal Island and San Pedro has interfered with activities there, especially on the purse seiners. So, anything that will aid production will help the industry . . . and on a more cheerful note we recommend "Spotting Sardines by Airplane" on page 19, and "Albacore Research," page 15.

*

Even more hopeful for improved conditions during the coming year is the manner in which "Tuna Canners View 1955-56" on page 4. Charlie Carry, head man of the California Fish Canners Association, feels that 1955 marked the low spot in the current situation and improvement is in sight. It may come slower than all of us hope, but the main thing is for it to come. We'll settle for "slow but sure."

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TIDES OF THE INDUSTRY

New Bludworth Products

New improved Bludworth Marine instruments, now at lower prices, incidentally, promise to ferret out some of the secrets the waters hold, with precision electronic equipment such as underwater television cameras, metal object locators, scanners and unusual depth sounders.

For example, a portable Underwater Camera Chain is designed primarily to be carried down by a diver to the scene of investigation and positioned in accordance with telephonic instructions from the surface vessel . . . for marine research and deep sea salvage work at depths up to 200 feet.

Another product is the remarkable "Kingfisher" depth sounder, which combines a super-sensitive echo recorder with echo vision. This instrument is of particular interest to commercial fishermen and owners of larger vessels who want to know what is under way accurately, instantaneously and definitely. For complete catalog write Bludworth Marine, 92 Gold St., New York 38, N. Y.

New Lighter-Weight Diesel

A new General Motors Diesel engine weighs less than ten pounds per horsepower and ranges from 87 to 300 horsepower.

For example, the "6-110" engine with front power take-off is rated at 289 shaft horsepower and has a continuous rating of 220 shaft horsepower for fishing craft and work boats. This unit also demonstrates the very substantial size and weight reductions achieved in GM two-cycle Diesels. The size and weight of this unit is said to be approximately one half that of many slow-speed Diesels of equal horsepower.

New Weather Instrument

Originally designed for government use, new low cost Wind-O-Meter will appeal to all interested in weather reading and forecasting.

It measures 360° wind direction, temperature from —40 to 120° F. and wind speeds up to 100 mph. Tornado winds will not damage instrument. The unit is wind tunnel calibrated for airline accuracy. Literature available from Aircraft Components Inc., Benton Harbor, Mich.

Engine Hour Meter

A new "direct-reading" meter has just been added to the Hobbs line of engine hour meters, according to an announcement by John W. Hobbs Corporation, Springfield, Illinois. The manufacturer states that the new meter rounds out their meter production, long identified with pointer-type models.

The Hobbs direct-reading meter is read in much the same way as the odometer in the speedometer of an automobile. Black figures show at a glance the total number of hours an engine has been operating; a red figure at the right indicates tenths of hours (6 minutes). Catalog free upon request.

Steel Equipment Catalog

Just published is a new catalog featuring steel shelving, lockers and other storage and maintenance equipment. The new catalog also contains the popular joke column entitled, "Heard in the Locker Room," which adds additional sparkle to Precision catalogs. For free copy write Precision Equipment Co., 3700 N. Milwaukee Ave., Chicago 41, Illinois.

Sawyer in Merger

The merger of three of the country's oldest and best known manufacturers of rainwear and protective clothing for many years widely used in the fishing and marine industries, The H. M. Sawyer & Son Company of Cambridge and Watertown, Mass., the J. F. Carter Company of Beverly, and the A. J. Tower Company of Boston—was recently announced by Charles L. Foote, President of The Sawyer Company. The new organization to be known as Sawyer-Tower, Inc., combines three firms each more than 115 years old and each reporting for 1955 the best sales record in their peacetime history.

Radar Target Increases Boat Safety

A new radar target that helps pr vent big-ship collisions with sma boats and enables disabled vessels t be easily located by radar has bee announced by Raytheon Manufactu ing Company, Waltham, Mass. Exte sive testing in sea trials shows th the radar target reflects an intens fied signal to radar-equipped vesse or aircraft and definitely increas the range of the target in any dire tion.

This low-cost unit requires sma space and may be set up in less tha one minute. The radar target can l readily attached to a halyard, ma oar, deckhouse or any other part the boat or its equipment.

Better Spark Plugs

Corrosion, the perennial pest boat owners, has been given anoth setback.

The Electric Auto-Lite Compa has disclosed that it is now using new plating process on its shield marine spark plugs which increas their resistance to salt water cor sion by 400%.

The new finish is a cadmium pla with a bronze chromate covering, t company said. Spark plugs with t new plating will be available throu dealers at no change in prices.

Trawl Cable Meters

Seaside Supply Stores, 803 Palos Verdes Street, San Pedro, Ca fornia, has been appointed distril tor for Trawl Cable Meters in Sou ern California, Central and So America . . . with Rolf Sannes lo ing after sales.

This Company has sold one set Meters to a shrimp boat which l used them off the Costa Rica Co The California Fish and Game Co mission have also made extensive perimental drags using Trawl Ca Meters and found them quite sa factory.

Distributors for Northern Calif nia are the Cincotta Brothers, Jefferson Street, San Francisco California. For the territory of gon, Washington and Alaska the cifis Fishermen, Inc., 5351 - 2 Avenue, N.W., Seattle 7, Washingt

Report from **Washington**

Items Gleaned from the Nation's Capital

ONGRESSIONAL STORMS.--The final session of the 84th Congress has started ff with a bang . . . a thunder of words that is developing into light- ing and storms.

Both Republicans and Democrats are "playing to the galleries"-- he voting public--for this is the year of The Big Election. Both parties re jockeying for advantage--and so are the aspirants for the Presidency ith each party. Everybody is trying to outmaneuver or out-promise the ther fellow.

Just where all this will lead to is rank speculation until such ime as President Eisenhower declares himself. When Ike announces whether e will or will not stand for re-election, then the political clouds will torm in earnest. Right now the experts here think it is 50-50 that Ike ill run again, and 75-25 that he will be re-elected if he runs. In the atter event Nixon is seen as a certainty for his running mate as V-P.

If Ike does not accept the Republican nomination, then most leaders ere think the top spot will go to Nixon or Warren . . . with a South- rner or an Easterner for vice president.

In the Democratic camp it looks like Adlai Stevenson again, but ome pretty smart folks around here think it will end up with a deal etween Harriman and Kefauver . . .the former for President and the latter or Vice.

--o--

ISHERY LEGISLATION.--While fishery interests are the biggest thing con- idered by the readers of this publication, we might as well face the acts. And the plainest fact of all is that only a few of the Congress- en--those from the Pacific Coast States--rate the tuna industry as mportant enough to justify immediate action.

The so-called "farm vote" swings a lot more power . . . and votes. ame with labor unions . . . especially since the merger of the CIO and he AFL. The farmers want better prices for their products, and the labor nions want higher wages, more fringe benefits, and amendments to the aft-Hartley law.

All these things, along with major problems on the international cene, will take a lot of talking, a lot of pulling and hauling. Meanwhile, fforts are being made by a few Western leaders for action to help the una industry--and it is a fair bet that some consideration will be given o this matter by the Congress . . . but our grapevine tells us not to xpect quick action.

The American Tunaboat Association said a mouthful recently: they alled attention to the fact that in our government setup the fisheries

interests are just a division within a division, and not one of the big wheels with top-ranking contacts and authority. This is one of the things that should be changed.

--o--

IMPORT QUOTA LEGISLATION.--Just before the Congressional sessions started, a public meeting was held here in Washington to discuss plans for introducing a bill on import quotas.

The meeting was called by O. R. Strackbein, Chairman of the Nation-Wide Committee of Industry, Agriculture and Labor on Import-Export Policy. Present were three Congressmen, Henderson Lanham of Georgia, Bob Wilson of California, and Cleveland M. Bailey of West Virginia. Also present were representatives of the press and a large number of representatives from various industries.

A draft of a proposed bill "to regulate the foreign commerce of the United States by establishing import quotas under specified conditions and for other purposes" was submitted for study and discussion, along with an explanation of the draft. The explanation stated that the bill is designed to: (1) provide an instrument for a liberal import policy; (2) offer protection to domestic industry, agriculture and labor against the destructive effects of fear and uncertainty present in open-end import competition, particularly from low-wage countries; and (3) encourage rising living and wage standards in countries exporting to this country.

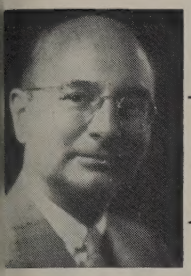
Mr. Strackbein said that the State Department had in effect outlawed consideration of quotas on imports, thus taking upon themselves authority which they did not have. He stated that the Executive Branch was attempting to deny Congress its right to regulate foreign commerce and has even gone so far as to provide against quotas in GATT agreements to which the U.S. is a party.

Congressman Lanham concurred in Mr. Strackbein's statement and said, "I am ready to do anything to re-assert the power of Congress and will gladly sponsor quota legislation."

Congressman Wilson pointed out that tuna is in such a serious situation in his district (San Diego) that he is urging prompt action; he and others said it is not the intent of the legislation to eliminate imports, but rather American industry is willing to share its market with the rest of the world but that reasonable protection should be accorded American industry and labor. The Congressmen present advised that they expected considerable opposition from the State Department on any legislation of this kind, but the close vote on the extension of the trade agreements program at the last session of Congress was a clear indication that members of Congress are becoming aware of the need for some changes in our foreign trade policy.

--o--

BILL H.R. 7925.--This was one of the first bills in the hopper . . . "to regulate the foreign commerce of the United States by establishing import quotas under specified conditions and for other purposes," introduced on January 3 by Congressman Lanham of Georgia. O. R. Strackbein aided in the preparation of this bill and released the following analysis and explanation of the legislation: *(Continued on page .)*



The Publisher's Page

ıe Crux of the Situation.—The so-called "tuna prob-m" simmers down to two sets of facts, and here they ·e . . . stated as plainly and simply as possible:

First, the good news is that American homes are using creasing quantities of tuna for salads, sandwiches and ıasseroles; the volume of tuna canned in this country is eadily growing with each passing year . . . sparked by ɔme mighty effective advertising and sales promotion ork by the canners.

Second, the bad news is that the share of the tuna pack ɔught from U.S. fishermen and their boats is declining, ue to lower prices on tuna brought in from the very ctive Japanese fleet; this has slowed down sales and roduction from the American fleet to the point where ıe boat owners and fishermen are in deep financial ffıculties.

A recent report in the Wall Street Journal stated: "In 1950, when the U.S. tuna pack was 8.9 million ıses, domestic fishermen brought in enough for almost 5 million cases. Last year, the nation's canneries put up 0.8 million cases of tuna, but U.S. fishermen—despite ıeir best catch since 1950—supplied fish for less than 5 million cases. And it's figured that American-caught sh this year will make only 5.4 million cases."

's More Than Tuna Trouble.—The situation outlined ɔove is bigger than any one industry. Tuna is just a part . . although to us the most important part . . . of some orld-wide problems that have become mighty complex these days of economic warfare and international ade adjustments.

Actually, a good many industrialists are beginning to ıink that the tuna situation is a good example of what ill happen to many types of business in the face of creasing foreign competition . . . unless they are given ıriff or import quota protection.

The impact of the tuna troubles is quite serious to the ·veral thousand fishermen and boat owners who earn their ·ing on tuna clippers and purse seiners. But the other side f the story is that the United States has to do business ith friendly nations or the latter, eager for trade, will ·ing over to the wrong side of the international setup. esides fish, such imports include plywood, wool floor ɔvering, stainless steel flatware, cotton shirts, optical struments, toys and games, ferro alloys and woolen ıbrics.

In Japan and certain other countries, labor and pro-uction costs are very low. So, even fantastically high ıriffs would not keep all of these products off American arkets. Best opinion in this country now favors import uotas in most industries, including tuna. Undoubtedly ıe correct quota regulations will remain a puzzling prob-m for some time to come . . . because the whole subject ɔw is also involved in politics . . . but at least a start the right direction is expected within the next few onths.

A Better Tomorrow!—With each passing year time seems to speed along faster and faster. As each one goes we can't refrain from a certain feeling of nostalgia . . . a deep remembrance and appreciation for old times and old friends.

While "Auld Lang Syne" is important, tomorrow is even more so. The past is most useful when used as a guide to the future. So we welcome the New Year for the fresh opportunities it brings . . . for the stimulus provided by a new chapter in our lives.

This year there probably is more reason than in any recent period to be stimulated by the thought of a fresh beginning. By building on the foundation of progress this industry (and America in general) has recorded in the last few years, the year 1956 can surpass even the splendid past.

No area of life need fail to share in the possibilities for well being that current research and continued prosperity can provide. Atomic energy, new chemical marvels, progress in housing, transportation, communications, and healthful foods . . . all spell further expansion of business and improvement in the general welfare.

Karl Marx to the Contrary.—Once there was a man named Karl Marx, who looked darkly at the world about him. As he viewed the rise of mill and factory, he devised a simple theory: Ownership of the mills, factories and land was the key to the future. Ownership should, therefore, be vested not in the hands of the few, but with something he identified as The People.

A hundred years later, in the United States of America, something that Marx hadn't figured was going on. Ownership by the people? Yes indeed: by the thousands, by the millions of people. Millions owned the homes they lived in, millions had land they tilled. Millions owned a share of the possession Marx valued highest, the tools of production. Young people, old people, rich people, poor people. An up-and-coming couple in Washington. A quiet widow in Oregon, tending by her dooryard the roses she had planted so long ago. A giant grower in Arizona, proud of his strength and his skill. A potato man in Idaho, an oil driller in California. People in droves, people in throngs. The people of the United States.

Yes, the people own the tools of production. By his own definition, Karl Marx's prophecy has been realized. How odd a quirk of fate that in Russia, where he is revered, his dream is being turned into a nightmare of slavery and poverty. Let us be thankful that here, in the capitalism he reviled, the promise of that better life is being fulfilled.

Another Year Passes.—A beautiful girl, emerging from a secluded spot in the river where she had been swimming a la natural heard a rustling in the bushes.

"Who's there?"

"Willie."

"How old are you, Willie?"

"Eighty-nine, dern it."

BRIANT SANDO

The General Manager of the American Tunaboat Association Tells Some Plain Facts About

THE TUNA PROBLEM

By HAROLD F. CARY

THE "tuna problem" is nothing new in Washington. In the recent past, various agencies of government have written extensive reports on the subject; the course of tuna trade has been greatly influenced by activities of the U.S. Government.

In recent years nothing has been done to aid the tuna producers or processors, yet agreements have been made which led directly to serious injury. A brief review of the tariff history of each commodity makes this year:

Tuna Canned in Oil

Tuna, Canned in Oil, was dutiable at 30% under the Tariff Act of 1930. In 1933 imports of Tuna Canned in Oil rose to high levels and the domestic industry applied for relief. To equalize costs of production, the government raised the duty rate to 45%.

In 1943 pursuant to the trade agreement with Mexico the duty rate was reduced to 22½%. However, Mexico was not and is not a principal supplier of canned tuna. So Mexico denounced this trade agreement in June of 1950 (because of interest in products other than fish), giving the six months required notice. This meant a reversion of the duty rate to 45% on January 1, 1951.

In this six months interval a tremendous amount of canned tuna was sent to this country (87.4% of it from Japan) which caused serious injury to domestic industry.

In September of 1955 the duty rate was reduced to 35%.

Tuna Canned in Brine

Tuna Canned in Brine is considered under the collective term "other items" dutiable at 25% under the Tariff Act of 1930.

In 1943 a trade agreement was negotiated with Iceland reducing the duty rate to 12½%.

While administrative decisions later held that this reduced duty rate was to apply to Tuna Canned in Brine, there was no mention of its inclusion at the time of negotiation, nor could it be reasonably said to be contemplated inasmuch as Tuna Canned in Brine was not an article in commerce prior to 1943, or for about five years thereafter. Further Iceland never was and is not today a producer of tuna products.

Here again we have a case of negotiating a duty rate with a country which produced no products of the kind which were later to be vitally affected by that rate.

In 1948, five years after this 12½% rate was presumed to have been set, just under 13,000 pounds of Tuna Canned in Brine were exported to the United States, representing 1/6 of 1% of total canned tuna received into the United States in that year. In three years this total was to reach 19,000,000 pounds and in four years it was to reach just under 30,000,000 pounds.

The denunciation of the Mexico-United States trade agreement which restored the 45% duty rate on Tuna Canned in Oil brought an almost complete shift of exports from o to brine, as follows:

Year	*In Oil*	*In Brin*
1950	36,409,000	381,0
1951	3,618,000	9,351,0
1952	4,288,000	19,032,0
1953	4,712,000	29,880,0
1954	1,111,000	30,534,0

In late 1951 the tuna industry, p ducers and processors, petitioned t Tariff Commission for an esca clause investigation. Despite compl marshalling of facts the Commissi voted 3 to 2 that there was no seric injury or threat thereof. Two strai findings were made in the major opinion:

1, Tuna in brine did not comp with Tuna in oil, and 2, the tuna fi ery (producers) was not conside an integral part of the tuna-cann industry.

Thus the normal course of t trade was diverted from tuna in to tuna in brine, by an abnormal e nomic force created by these ag ments. They also placed further phasis upon the already abnorma high imports of Frozen Tuna.

Frozen Tuna

Tuna, Fresh or Frozen, is on duty-free list and has been so tre ever since the first exports to United States in 1928. It has c been in the post-World War II pe that this commodity adversely fected domestic producers (b owners-fishermen).

The prewar average of import

rozen tuna (1931-1940) was 8,655,-00 pounds (5,392,000 or 62.3% rom Japan.)

The tremendous increases in the ost World War II period have erved to make these figures seem ery small indeed. In 1948 the pre-ar average was exceeded when ,143,000 pounds were imported into ie United States. The phenomenal rowth since 1948 has seen this im-ort figure rise by almost 1400%.

For the first eight months of 1955 new record total of 115,000,000 ounds was reached.

As in the case of canned tuna, apan is by far the leading supplier f frozen tuna, her participation run-ing at 80% . . . rising from about million pounds in 1948 to 98 mil-.on pounds in 1954, with 1955 still igher.

The upsurge of frozen tuna im-orts, together with the effect of the eavy imports of canned tuna in oil nd brine, continued to depress our omestic industry.

atest Developments

Last spring (1955) the producers' ituation grew rapidly worse. The White House was asked to impose a uota on frozen tuna. This was not one but six of the executive depart-ients met, taalked to tuna processors s well as producers. A White House letter was issued stating no quota would be imposed but setting forth "a number of possibilities for helping the industry . . ."

These were:

1. " . . . discussing the desirability of Japan's undertaking early action to improve wage standards and practices in its tuna fishing industry."

This expectation is naive inasmuch as earnings of Japanese fishermen are at least on a par if not above wages in shore establishments and earnings of fishermen in their tuna fleet are higher than in other fisheries.

2. ". . . effort to promote a continuing expansion of the market for tuna fish in the United States . . ." through ". . . the Japanese industry participating financially with the American industry in an advertising and market development campaign."

The market has expanded. It has done so almost entirely through efforts of processors in the United States, chiefly those selling nationally advertised brands. The Japanese, by their own admission, have contributed little or nothing.

It has been suggested to the Japanese that inasmuch as they have close to 40% of the U.S. market they make a material starting contribution to a promotional fund. Press reaction in Japan indicates poor reception to such a plan. The "Suisan Tsushin" stated: "Japan should assume certain amount of this expense. It is said that $1.5 million dollars was requested as Japan's share. If this is true, it would mean that Japan would have to assume 59 cents per case or $20 dollars per ton of frozen tuna. This would be a mortal blow to the tuna industry of Japan."

3. "The Department of the Interior is actively pursuing its current promotional and research activity in support of the tuna industry. This program—under the Saltonstall-Kennedy Act will be stepped up to the long run fundamental advantage of the American industry."

Appropriations under the Saltonstall-Kennedy Act now total 6 million dollars. Of this 35 thousand dollars has been set aside for tuna fishery projects. This amounts to six-tenths of 1% of appropriated funds. We are grateful for this but do not regard it as any unusual display of interest in our domestic fishery in California.

4. "The Small Business Administration will give priority attention to loan requests from the tuna industry and has already taken steps to further the same end."

Two loan requests have been acted on since the receipt of the advice.

(Continued on page 18)

PESQUERA DEL PACIFICIO, ENSENADA, BAJA CALIFORNIA

They're Trying Hard to Solve

The SARDINE SITUATION

IT SEEMS unlikely that any marine fishery in California will face a situation more baffling than did the sardine industry in 1947-48. For several years the succulent little Pacific sardines had formed the basis of one of the nation's great fisheries. Approximately half a million tons were being taken annually; in some seasons the catch went well above that figure. Monterey's Cannery Row was known all over the world; less noted but equally thriving sardine ports were San Francisco and Los Angeles Harbor, with San Diego playing a minor role.

After dropping somewhat in the early 1940's, in 1947-48 the catch plummeted to a low of a little over 100,000 tons. Several scientific agencies had investigated the fish to the best of their means. But it was clear that there was not enough factual information on hand fully to explain the disaster or to predict the future of the fishery. Particularly needed was information on sardine behavior and distribution, to find out the influence of oceanic conditions on the sardine.

It was under these circumstances that the Marine Research Committee was formed by legislative action. The membership consisted of five men from the sardine industry, one public representative, and three ex-officio members — one from the Fish and Game Commission, two from the Department of Fish and Game.

A special tax was put on sardine landings and was later expanded to cover anchovies, jack mackerel, Pacific mackerel, herring, and squid. All but a fraction of these funds has been spent by the Marine Research Committee to foster research on oceanic fishes.

The Lowest Ebb

Bad as it was, the 1947-48 season was by no means the lowest ebb of sardine fishing in California. Much worse was to come. In the 1953-54 season only about 3,500 tons of sardines were landed in California, virtually all from southern California waters.

By that time, the scientists had worked for almost five years on intensified sardine investigations. They believed that they knew the answers to some aspects of the problem. But they had been working in an era when oceanic conditions seemed uniformly hostile to sardines. They had a great deal of detailed information on very bad years. What they sorely needed was comparable information on good years.

THIS is Part I of a Progress Report sent to the Governor of the State of California, covering work of the Cooperative Oceanic Fisheries Investigations from July 1953 through March 1955. Additional details will appear in subsequent issues of this magazine.—The Editors.

The scientists were working under the California Cooperative Oceanic Fisheries Investigations, as the expanded sardine studies have come to be known. The program was modeled upon investigations carried on continuously since 1919 by the California Department of Fish and Game and augmented after 1937 by the U.S. Fish and Wildlife Service.

To date more than four million dollars has gone into this program from state, federal, and industry sources. Of the total, the Marine Research Committee has directed the spending of $772,960 in the fiscal years 1948-49 to 1954-55.

Ships Sail 300,000 Miles

Of this sum, the Scripps Institution has received 29.6%. Since 1949, as a rule, two university vessels have put to sea each month. These ships have sailed over 300,000 miles covering oceanic waters in a region that extends from the Oregon border to the tip of Baja California and 200 to 300 miles at sea. As a result, a large proportion (in 1954-55, an estimated 65%) of the money Scripps has received through the University for marine life research has been spent on the collection of data at sea and its processing. Only the lesser share has been available for the important work of analysis of the data and conducting special studies. With the Marine Research Committee grants, the Institution has been able to undertake studies of the food of the sardines, of some oceanic plants, of the genetics of sardines. In addition, it has supplied editorial and illustrative services for the publications of the Marine Research Committee.

The South Pacific Fishery Investigations of the U.S. Fish and Wildlife Service has been given $378,509 or 49.0%, of the sum. The Fish and Wildlife Service has used the money to expand its studies of the eggs and larvae of sardines and to continue its joint studies with the Department of Fish and Game of the commercial catch, and to participate with its vessel *Black Douglas,* in the routine oceanic surveys.

Nature of Work Handled

The California Department of Fish and Game has received 7.8% of the total. This was used in part to purchase equipment, in part for salaries in connection with the Department's sardine studies. Through its regular budget the Department has conducted young fish and adult fish surveys, has kept records of the catch and age and sizes of sardines, mackerel and anchovies as well as all other commercial species, has participated in the very important scale reading program, and has collected material at sea for the use of the other agencies. It has supplied one or more ships as needed, regularly the *Yellowfin,* occasionally the *N. B. Scofield.* At least one vessel has been at sea during approximately ten months out of each year.

The California Academy of Sciences has received 7.5% of the total. This agency has conducted studies of live sardines in the Steinhart Aquarium, investigating schooling behavior, feeding behavior, differences in behavior at different controlled temperatures, and behavior in an electrical field. (This last opens up at least the possibility of a new method of selective fishing, since sardines swim toward the positive electrode and the largest fish are most easily affected.)

Stanford University's Hopkins Marine Station at Pacific Grove joined the program in the 1951-52 fiscal year. It has received 2.7% of the total, using the money to conduct oceanographic studies in and near Monterey Bay, which will be of great value, particularly at such time as sardines return to that area.

The Committee has spent 3.4% of ne total on general operating ex-enses and the printing of its reports.

The Committee has been able to irect the expenditure of 97.5% of ne total returns from the special tax; .5% was required to be paid into ne Fish and Game Preservation und. This money, because of a uirk in the law which has just been nanged, has not been available for ny purpose whatever.

ooperative Research Efforts

In reviewing the course of the in-estigations, it would be difficult to eparate the results that have been otained with "Marine Research Com-ittee money" from those with "Uni-ersity money," "Fish and Game oney," or "Federal money." But any results have been obtained; ey appear in the form of reports nd of papers in the scientific jour-als. By 1 January 1955, almost 150 ch papers dealing with the sardine rogram had appeared. (These are sted later in this report.

In April, 1947, the staffs of the alifornia Department of Fish and ame, the U.S. Fish and Wildlife ervice, and the Scripps Institution f Oceanography conferred and rec-mmended a program of research at eventually was adopted as the xpanded sardine program. It is in-eresting to compare this plan with ne achievements of the program:

1947	1955
IOLOGICAL RESEARCH	
I. Recruitment.	
a. Measurement of amount of spawning.	One major spawning area off southern California was known as early as 1930; a second off Baja California has been delineated. In 1954, approximately 325,000 billion sardine eggs were spawned in contrast to 440,000 in 1953, 145,000 in 1952, and 610,000 in 1951. Amounts of eggs of other species are also measured.
b. Measurement of the abundance of larvae.	This has been done annually.
c. Measurement of the relative abundance of year-class before it enters the fishery.	This has been done every year since 1950, for the several species, and has enabled comparisons with previous surveys made in 1938, 1939, and 1940.
d. Measurements of the sizes of year-classes in the commercial fishery.	This work, which has been done every year since 1932, and which has provided the basis of much of the research on the sardine, has continued.
e. Studies of the spawning stock on the spawning grounds.	These have been conducted whenever possible.
II. Availability of the stock to the fishermen.	
a. Analysis of the commercial catch.	This work, begun in 1919, is also a continuing nature, and has been done.
b. Exploratory work on and off the fishing grounds during the fishing season.	This has been done.
c. Exploratory food studies.	This has been done insofar as it concerns sardines. There has been some work on other species.
II. Investigation of rapid methods of plankton collection and analysis.	This work was done in the early years of the program. It provided tools and techniques that are becoming standard in the field.
V. Physiological studies of behavior, feeding, and nutrition.	These studies are continuing.
V. Dynamics of the sardine population and fisheries.	This is being done. A paper that represents an attempt to construct a general theory of sardine populations comprises the major part of this report.
HYSICAL AND CHEMICAL OCEANOGRAPHY	Approximately 6,000 "oceanographic stations" have been occupied. The information gained from these cruises should make the California waters the best understood in the world and will be basic to any future studies of the eastern Pacific and its resources.

In addition to these tasks accomplished, valuable new information has been gained on species that are now little exploited or not at all, such as hake and sauries, which have been found to be present in large numbers.

Big News in 1954

The Committee has thus been instrumental in the progress of a program that has enormously expanded our knowledge of the California waters. A dramatic instance of the potentialities of such information occurred last fall:

The biggest news in sardine research in 1954 occured outside the laboratory. Nature obligingly conducted an oceanographic-fisheries experiment far beyond the scope of man.

Between two and five billion sardines came north from Mexican waters to provide California with the best catches since 1951-52.

The fish started coming northward in the spring. Egg-and-larvae surveys showed widespread spawning quite early in the year.

Water temperatures showed a marked increase in the early spring.

Together, these factors indicate that wide spawning off southern California may depend largely on the right temperature at the right time of year. And if the sardines come to southern California to spawn, they may remain there (or return) to be caught.

This theory has been advanced several times, but it has never been possible to nail it down before. For five long years (1949-53) ocean temperatures off the coast varied so little from year to year that oceanographers would have had to concede that if fish were responding to these slight differences they were more acute than our most sensitive measuring instruments.

Then early in 1954, ocean conditions changed.

Another Change Occurs

The first evidence of the change came from charts of surface temperatures. These are plotted up after each cruise. They showed a consistent warming off southern California in the spring months.

Now it is known that warming extended throughout a layer of water at least 300 feet deep.

Second evidence of changing conditions came as plankton collections were sorted. Sardine eggs and larvae turned up from regions where none had been found in the past two years.

In July, fishermen reported schools of adult sardines around the Channel Islands and large schools were seen

(Continued on page 23)

Part of 400 tons of imported frozen tuna from Japan brought to Long Beach by the Swedish motorship Bataan and being re-crated for trucking to a small cannery at Fish Harbor, San Pedro, California.

CURRENT ACTIVITIES ON *Albacore*

Reported by California Department of Fish and Game

THE present FWS study was initiated in October 1954 and involves two problems. The first is to investigate the waters of the central Pacific from the eastern extent of the present Japanese fishery north of Midway, to about 140° W. longtiude, or about halfway to the American mainland. A study of meager oceanographical and biological data indicates that this region may contain large populations of albacore as yet not subject to a fishery.

The second is to investigate the causes of the violent fluctuation in the catch of albacore off the American coast and to relate the occurrence and distribution of the tuna there with oceanographic features. The present American albacore fishery occurs in the summer. Although during the past two years no albacore have been taken north of California, in the past as much as 40 million pounds a year have been landed from the more northern waters. The ultimate intent is to extend the present west coast fishery both in time and area.

Reconnaissance surveys in the region north of Hawaii have substantiated our belief that there are regions of high productivity in the transition zones between various major ocean current systems. Preliminary results reveal two rather well-defined transition zones extending in an east-west direction north of the Hawaiian Islands.

The southern-most is between the westerly flowing North Equatorial Current and the easterly flowing North Pacific Drift and is known as the Subtropical Convergence. It shows considerable seasonal shift in location, varying from a more southerly region of about 23° to 26° N. in the winter, to between 28° and 30° N. latitude in the summer.

The most northerly and most important zone biologically with respect to albacore lies between the North Pacific Drift and the Aleutian Current, which also flows in an easterly direction toward the American continent.

Longline fishing (which lowers the hooks 200-600 feet below the surface) in the late summer revealed that albacore were distributed over a wide latitudinal area from 25° to 27° N. Surface trolling took albacore only in the more northerly transition zone between the Aleutian and North Pacific Drift currents.

During the winter the albacore catch was bunched between 23° and 37° N. latitude with the greatest single catch occurring at 34° N. Considering the data collected thus far, it looks as though concentrations of albacore are associated with certain favorable oceanographic conditions. Furthermore, these albacore do no appear to be exploited by any fish ery at the present time.

Considerable progress has bee made since the initiation of this pro ect along other lines of research r lating to the basic objectives of th program. The food of tuna has bee studied by sampling the zooplan ton. Relatively high plankton catch have been made in the region of th transition zone; these show a positi relationship with high values of n trients in the sea water and good fi catches, although it is yet too ear to definitely say whether or n plankton itself is a good indicator albacore-rich water.

First observations indicate th there are large amounts of sauries. mackerel-like fish occurring in t transition zone where we catch alb core. There is a suggestion that t distribution of these tuna may related to the distribution of the s ries. and future plans involve findi the relationships among the curre in the North Pacific, the zooplankt or basic foods, the forage organis and, finally, the albacore.

It is important to know whet the stock of albacore north of Haw is related to the stocks preser being fished by the Japanese in west and the Americans to the e Albacore from the North Pacific the eastern Pacific are being tag

nd measurements of body proportions are being taken in order to compare fish from the central Pacific with albacore taken by commercial fishermen off both the Asiatic and American continents.

It is hoped by these means to determine the migrations of albacore throughout the Pacific and also to ascertain the relationships existing among the various stocks. Means of coordinating a Pacific-wide tagging program which will encompass both the Japanese and the present American fisheries, as well as the region of the central Pacific north of Hawaii, are being explored.

Material is being collected for life history studies in order to determine where albacore spawn in the Pacific and whether concentrations of albacore can be located through their reflective habits.

Thus far during the winter time, albacore captured by the Japanese north of the Hawaiian Islands during the winter months and many of these had fully mature ovaries. This indicates that some spawning may occur in the vicinity of the Hawaiian Islands during the late winter or early spring months. *

the longline gear appears to catch the larger albacore weighing up to 80 lbs. most efficiently, while on one cruise during the fall the most efficient type of gear seemed to be surface trolling. This suggests that the fish may inhabit different depths of water during different times of the year. The winter fish averaged 60 lbs. in weight and ranged up to 80 lbs., while the summer fish were small, averaging about 17 lbs. in size. *

ALBACORE RESEARCH

COOPERATION of fishermen in providing information concerning catch localities for albacore has been very gratifying. As a result, says Marine Biologist Harold B. Clements, we now have catch data for over 525 individual albacore fishing trips during 1955. This basic information was obtained by field personnel from fishermen at San Diego, Terminal Island, Moss Landing and San Francisco.

New log books, designed to provide fishermen and biologists with permanent fishing records, were issued free to as many interested albacore fishermen as time permitted. These log books should last for two or three seasons and it is hoped that Captains having logs will start recording information on their 1956 trips. Though fishing for albacore keeps a man pretty busy, 50% of the Captains have returned log records for 1955; they have our sincere thanks and appreciation.

Our research vessel, *N. B. Scofield*, in cooperation with a POFI vessel, conducted exploratory fishing and oceanographic studies during May and early June of this year. The purpose of this operation was to delineate the off-season distribution of albacore, to discover possible migration routes and to make detailed oceanographic and biological observations which may be related to the occurrance of albacore. The general area explored extended from the California coast out to 155° W. longitude and between 25° N. and 42° N. latitude.

During August a similar investigation took place in a general area extending from the coast out to 150° W. longitude and between 28° N. and 47° N. latitude. Good catches were made on both trolling and longline gear in the southern part of this area. The northern portion, which was north of the commercial fishing area, produced relatively few fish on trolling gear and six albacore on longline gear. In most cases longline gear captured the larger fish.

We received a dozen offers to take tagging personnel out on commercial vessels this season but lack of help prevented us from accepting all offers. We did, however, manage to send a man out on the *Deluxe* and the *Arctic* with very good results. Present plans call for tagging 2,000 albacore next season and it is hoped that fishermen recapturing tagged fish will let us take length and weight measurements. All fish loaned to us for measurement will be returned promptly. Data on 22 albacore tag returns to date vary from 96 miles in 24 days to 4,724 miles in 324 days. Four fish traveled well over 2,000 miles. Two were recovered off Japan and the other two were recovered north of Midway Island.

Virtually all albacore taken by fishermen along our west coast are sexually immature. This fact has caused many inquiries concerning albacore spawning habits. No albacore eggs or larvae have ever been collected by our research vessels operating on this side of the Pacific Ocean. However, we have examined large

Sampling Canned Tuna

Donald G. White, technologist of the Western Research Laboratory of the National Canners Association; J. A. De Silva, Jr., president of South Coast Fisheries, Inc.; and E. W. Chapman, sales manager of Pan-Pacific Fisheries examine canned tuna samples at the fifth annual tuna cutting recently held at Long Beach, California.

The cutting was one event in a three-day quality control program sponsored by the California Fish Canners Association. Each year the southern California canning industry voluntarily assumes this responsibility for the protection of the consumer. Research and continuous improvement of quality, appearance, texture and standardization of pack account for the high level quality of tuna now available, and it is through the annual cutting meeting that the canners obtain an unbiased report on their product to maintain top quality in all species of pack.

All elements of the tuna industry including cannery officials, plant superintendents, foremen, fishermen and boat owners were in attendance.

FIRST TEN YEARS OF FAO

THE Food and Agriculture Organization of the United Nations is beginning its second decade of service to member nations. For it was ten years ago—on October 16, 1945—that the Organization came into being.

Since that time the Organization has grown from 42 member nations to 71. It is the only international agency set up to deal directly with the immediate and long-range problems of food and farming over the world. Its objectives, as stated in its Constitution, are:

"raising levels of nutrition and standards of living of the peoples . . .

securing improvements in the efficiency of the production and distribution of all food and agricultural products,

bettering the condition of rural populations,

and thus contributing toward an expanding world economy."

To carry out these objectives, FAO's work is divided into three principal categories—it collects, analyzes, and distributes to member nations the basic facts on food and agriculture, forestry, and fisheries; it promotes concerted national and international action by recommending definite ways and means for putting the latest facts and scientific methods to use; and it gives technical assistance to member countries requesting it.

How successful has FAO been in carrying out its objectives? How does the U.S. size up the 10-year accomplishments of the Organization? Various leaders in specialized fields have given favorable views. Here's the report from A. W. Anderson, Chief, Branch of Commercial Fisheries, U.S. Fish and Wildlife Service:

In the field of world fisheries FAO has a number of solid achievements to its credit. Progress has been steady rather than spectacular. For example, its fishery publications represent an outstanding accomplishment. The *Yearbook of Fishery Statistics* filled a definite need and remains the sole publication in its field. From the modest start the *Fishery Bulletin* has assumed a top rank in publications of its type. And *World Fisheries Abstracts* also is alone in the international field. Among individual reports, *Fishing Boats of the World* has been widely acclaimed and is the only reference book on fishing craft.

Less tangible but equally significant has been the role FAO has played in initiating technical discussions on international fishery problems in administration, technology, marketing, and distribution. The opportunities offered for conferring with other experts and interchanging information have expedited advances in fishery knowledge in developed as well as underdeveloped countries.

Technical assistance projects in fisheries stand up well under scrutiny. The approach appears to be toward permanent and far-reaching developments rather than immediate spectacular effects. As a byproduct of this activity there has been sought out, developed, and made available for future assignments a large and well qualified body of experts from a great variety of countries.

Although the overall record is very favorable there are a few problem areas. The concept of Regional Fishery Councils has been reasonably successful in the Indo-Pacific area, but considerably confused in Latin America. Because of tentative recommendations of the International Law Commission and various other statements, an erroneous impression has grown in a few parts of the U.S. fishing industry that FAO's ultimate aim is control and regulation of international fisheries, or that FAO is receptive to such an idea. However, the fact is that FAO has no authority, nor has it made any effort toward obtaining the right, to regulate international fisheries. But the fact that a contrary impression has gained currency creates a problem in public relations and possibly in other fields. The U.S. practice is to settle questions on regulations of international fisheries with the nations directly concerned.

FAO undoubtedly serves the U.S. most significantly in the field of fisheries by attempting to achieve its primary objective of improving foo consumption and raising standards o living throughout the world. Succes in this endeavor benefits our dome tic fisheries over a broad front. Spe cifically, however, FAO's fishery ac tivities are most significant to th U.S. in the form of the specialize publications mentioned previousl and providing of forums for the dis cussion of technical fishery problem in which the U.S. has an interest.

In line with these interests it woul be most advantageous to the U.S. FAO would continue to develop an expand its statistical information o production and trade in fishery pro ucts, and continue with the prese type of periodicals and special pul lications. The development of loc fisheries for local use should co tinue to be a goal and be couple with adequate marketing and distri bution studies. Finally, teachin member countries the true meanin of conservation, and the various wa in which it may be achieved, wou do much to aid in solving the ve serious problems the future holds this potentially troublesome area.

New Salmon Fishway

A new experimental fishway f passing salmon around river obstru tions has been designed and install on the Coweman River east of Lon view by the Washington State Depa ment of Fisheries.

The "Denil" types structure, n previously used in this country b common in Europe, is shorter a cheaper to construct than the conve tional pool-type fish ladder, a makes fish passage possible over wider range of flow variation. main advantage, like that of t Hell's Gate vertical baffle fishw used on larger streams, is in the eli ination of manual operations. Po type fish ladders have a fixed op ating range and at certain water l els will not pass fish unless the p weirs are adjusted.

The Denil fishway on the Co man is 30 feet long, 6 feet deep, a has an interior wall-to-wall width 3 feet. Six rows of sheet metal ba les break the current into an eas negotiated flow pattern.

The Coweman falls normally wo have been bridged by a pool fish l der 48 feet long and 8 feet wide a cost of about $20,000. The De ladder cost $8,000. Further appl tion of the new design is undeci pending thorough testing.

'OFI CRUISE REPORT

WO FAWS vessels, the *John R. Manning* and the *Hugh M. Smith*, urned to Pearl Harbor December , successfully concluding a com-ıed total of nearly 15,000 miles of ıising in search of data on the ɛanography and the tuna resources the equatorial Pacific.

According to Dr. A. L. Tester, ·ector of POFI, the three-month yage of the *Smith* had as its object ɛ study of the productivity or fer-ity of a vast area of the eastern ·pical Pacific through observations the ocean currents, the distribution oxygen and nutrient chemicals in ɛ waters, the amount of plankton d other fish food, and the abund-ce of tuna schools. The cruise itin-ary included a refueling stop at anzanillo, Mexico, a bait fish sur-y in the Marquesas Islands, and a ief stop in the Line Islands, and the servations covered an area of the ean larger than the continental ited States.

Radioactive carbon was used aboard e *Smith* by Robert Pyle in experi-ents designed to show the rate at ich microscopic plant plankton takes up substances from the sea water in which it lives. This new technique is being used as part of a project under the direction of Dr. Maxwell Doty of the University of Hawaii.

The *Smith* party, at the request of Vernon Brock, director of the Division of Fish and Game of the Territory of Hawaii, brought live sardines from the Marquesas in its bait tank and released them off Oahu. The introduction of this new species to Hawaiian waters, if successful, may help to overcome the chronic shortage of tuna bait here.

The *John R. Manning*, on a cruise of one month's duration, fished for yellowfin tuna by longlining and trolling around the islands of Christmas, Fanning, Washington, and Palmyra in the Line Islands group, about 1,000 miles south of Hawaii.

Although much valuable data was collected, and 40 yellowfin were successfully tagged and released, the level of abundance encountered was remarkably low by comparison with past cruises. At the best longline station, northwest of Christmas Island, the tuna catch rate was only 1.5 fish per 100 hooks, while the waters off Palmyra Island, where the best trolling was found, produced only slightly over two tuna per hour, per hour of fishing. In addition to the total catch of 80 yellowfin tuna, 146 wahoo or ono were taken, almost all of them by trolling.

The cruise provided an opportunity for a large-scale test of a new method of handling longlines, in which the mainline, instead of being taken apart into the separate units traditionally called "baskets," is flaked down continuously in a huge revolving tub mounted on the deck. This system showed considerable promise from the point of view of cutting down the labor involved in fishing this type of gear, and with some modifications it will probably be adopted as the standard longlining method aboard POFI research vessels.

An important addition to the array of instruments which FWS maintains at Christmas Island for the recording of meteorological and oceanographic data was made in the form of a recording tide gauge . . . supplied by the U.S. Coast and Geodetic Survey. *

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The Tuna Problem

(Continued from page 11)

The first (from an owner with no delinquent indebtedness) was rejected because of "Lack of satisfactory evidence that the business can be operated at a rate of profit sufficient to repay the loan from earnings." The second (from owners with a distress condition) was rejected because of "Inadequate collateral, considering present economic conditions in the related industry; lack of reasonable assurance of ability to repay loan from earnings; debt proportionate to net worth." These loan rejections promise no hope of loan assistance. They are notable, however, in indicating that one agency of government considers the condition of the tuna fishing industry to be serious.

TUNA CLIPPER UNLOADING AT CANNERY

The Real Need

It is apparent that the White House and six Executive Departments wrestled with this problem and came out with suggestions that by-pass the central issue—the impact of imports.

The need is for a firm declaration of policy by the President and his advisors clearly stating government policy in regard to our commercial fisheries. Six departments do not wrestle with problems concerning agriculture, and other areas where there is basic policy and authority.

The tuna problem is simply a football to be kicked around until such time as there is policy, responsibility and authority. Our Department of Agriculture has taken positive, vigorous steps to help farmers "achieve a better share of the present national prosperity." When tung oil imports were found to be burdensome, a solution was found. Recently an Assistant Secretary of Agriculture was quoted as urging that we buy more fishery products from Japan, otherwise they will go to Red China for their trade. He was speaking to help farmers to build an export market for our domestically produced farm products.

The voice of anyone in government talking on fisheries in Washington is almost inaudible. A part of the Department of the Interior speaks for fisheries — the Fish and Wildlife Service—but even though the effort may be valiant this branch of the Department must also attend to the problem of the sport fisherman and the hunter. It is pretty far down in our councils of government.

Clearly our commercial fisheries need a declaration of government policy on their behalf and a department of government with responsibility and conviction to carry it out. At present in our executive branch of government, no one is in a position to say that our commercial fisheries should "achieve a better share of national prosperity."

It is time the decision be made whether anyone will have that right and responsibility.

The producer would choose to be totally free of government—but when the government itself makes agreements with other nations adverse to his business and encourages all food producers except him—the price of independence is too high. The threat of total loss of his livelihood is too great.

Government Policy Guides

The government has certain policies which, while not directly applicable to the tuna fishery or to other fisheries, should be examined.

1. Our government has declared interest in maintaining a food supply. Banks, credit resources, support programs, surplus disposal program —all are part of a national food policy. Fishery products are a part of the food program not covered by this policy.

2. Our government has declared it to be in the public interest to mai tain an American merchant mari for access to the market resources the world. Operational and constr tion aid program implement this p icy. Our fisheries need some simil policy.

3. Our government has a trade p icy dedicated to expanding trade w and among the free nations of t world . . . without bringing seric injury to an American industry. C fisheries problem must be re-exa ined in the light of our serious jury through an excess of imports.

4. Our government has a decla policy of utilizing the diverse sk of all our people in time of em gency. Diversity has brought stren to our economy in time of peace war. Our skilled seamen, and er neers, our high seas vessels were o in demand and were of extreme va to this country. This reserve worthy of being retained.

What the Industry Has Done

If we simply screamed to the g ernment, we would have no claim attention. The tuna producers (b owner-fisherman) have worked better their own position and f their own battles and on that gro claim attention.

1. We developed the entire t fishery of the Eastern Pacific Oc

vering about two million square iles of ocean area.

2. We developed the most efficient na fishing craft in the world.

3. We developed skills which re- lt in our fishermen out-producing y tuna fishermen in the world, man r man, in efficiency.

4. We sold the fish at prices com- titive enough to permit our domes- canners (most of them) to spend st sums (9 million dollars in 1954) building a market and selling tuna prices which made a mass market.

5. We helped build a market so rge that it early developed the sire in the Japanese to take it *all* vay from us—an undertaking in hich they are making remarkable rides.

6. We cut our prices drastically in e last 14 months—by 24%—to do l we could possibly do to meet this enace to our livelihood.

7. We did all this with no aid, or couragement, from the government.

8. We did all this despite bad busi- ess deals in the form of trade agree- ents made by this government, on ie products we produce.

It is our considered opinion that ie time has come for government to xamine the wreckage and decide it as some degree of responsibility for and some degree of responsibility reverse the ruinous trends, which l considered policies have brought bout.

onclusions and Recommendations

The need for a basic policy re- arding the commercial fisheries is early evident. It can be set forth y a declaration by the President, or a recommendation of this commit- e, or it can be established by a oint Resolution of Congress.

The need for a voice at a policy aking level can be accomplished by ie creation of the position of an ssistant Secretary in one of the xecutive departments whose primary unction it would be to deal with mplementation of commercial fisher- es policy.

The need for economic services hould be fully surveyed and a pro- ram patterned to the needs. Of ne- essity, this should include extension f credit facilities to fishermen from, r similar to, those found in the Farm redit Administration program for arm producers, specifically the Bank or Cooperatives. Provisions should be established whereby domestic fish producers are eligible for loans, purchases and payments generally similar to the National Wool Act of 1954, adopted because of a severe import problem.

The need for protection from serious injury can be met by the adoption of the basic policy referred to and delegation of responsibility in government for implementation thereof. Responsibility and authority, such as that delegated to the Secretary of Agriculture under Section 22 of the Agricultural Adjustment Act, modified to fit commercial fisheries, would be of major assistance in this field.

The designing of an equitable quota on tuna imports would not deal solely with the matter of fair treatment of domestic producers and the Japanese suppliers, but should deal with establishing equity in the positions of domestic producers (boat owners and fishermen) and domestic processors (canners).

In regard to discussion between the United States and Japan respecting tuna, we believe that extraordinary conditions require extraordinary treatment. An executive agreement could be entered into for an emergency short term or long term period. This has been objected to on the ground that it conflicts with international commitments. It should be pointed out that our international commitments are in conflict because of the *type of commodity* involved not because of any blanket inability to act. If the commodity were one under an agricultural program, for instance, no conflict would be involved. *

Spotting Sardine Schools by Airplane

A new development in the purse-seine night fishery for sardines off the coast of California is the use of small planes for spotting the schools and directing the setting of the seine. The sardine schools are clearly visible from the air at altitudes of from 500 to 1,000 feet, according to the FWS Market News Reporter at San Pedro.

After the schools of sardines are spotted by the airplane, the pilot gives detailed instructions as to when the net skiff should be dropped, and the circle around the fish made. During the course of a six-hour flight, one pilot in a small plane successfully set nine purse seiners on sardine schools estimated to total about 500 tons.

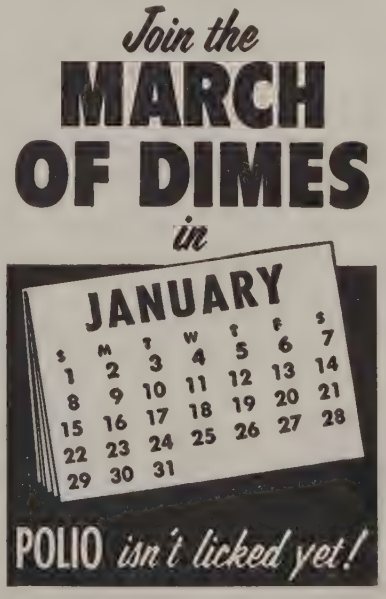
At the present time over one-half of the purse-seine fleet is depending on the spotting planes to locate sardine and mackerel schools. It is believed that this method of spotting and setting on schools of pelagic fish has tremendous possibilities. There are three planes now operating out of San Pedro, and they scout the entire Southern California fishing areas all night long when the seiners are out.

The airplane pilot works on a share basis of 5% of the gross stock and it is estimated that his share of the proceeds of the trips will average close to $200 based on an average catch of 100 tons. Scouting planes in the past have been used mainly in the daytime for anchovies and mackerel.

Alaska Salmon Traps

Secretary of the Interior McKay on January 3 recommended three amendments to proposed legislation for the gradual elimination of salmon traps in Alaskan waters which was given the Department's general endorsement late last year.

In a letter to the House Committee on Merchant Marine and Fisheries, Secretary McKay said that the people of Alaska had supported a ten-year period for elimination of the traps. In view of this, Secretary McKay said, he felt that this period should be set rather than the five-year period previously proposed.



The Saltonstall-Kennedy Act In 1955-56

NEARLY half of the $3,000,000 provided the Fish and Wildlife Service by the Saltonstall-Kennedy Act for the year ending June 30, 1955, was used for biological research on fish and fisheries, according to a report issued by Acting Secretary of the Interior Clarence A. Davis.

A total of $1,434,000 was expended on these studies. Approximately the same amount — $1,444,000 — was spent for research in the exploration, development and utilization of our fishery resources.

The Saltonstall-Kennedy Act was passed in 1954, amending existing statutes. It provides funds "to promote the free flow of domestically produced fishery products in commerce by conducting a fishery educational service and fishery technological, biological and related programs —and to develop increased markets for fishery products of domestic origin . . ."

In carrying out this policy, the Department has let about 60 contracts for research work in every section of the country for over 40% of the year's funds. The contractors include 30 universities, colleges, and public institutions, and 13 commercial and independent scientific research organizations. These contracts represent in excess of $1,250,000.

More than 100 projects, representing a potential expenditure of more than $10,000,00 have been suggested for study under the Saltonstall-Kennedy funds. An advisory committee named by the Secretary of the Interior advises in preparing rules and regulations and in recommending priority of projects.

The biological studies covered a variety of subjects including:

Salmon and related species, $216,700 to determine the racial characteristics of salmon, develop methods of counting and to secure escapement data.

Pacific sardine, $114,500, to determine why the supply of sardine, anchovy and mackerel on the Pacific Coast fluctuates to such a degree.

North Atlantic trawl fishes, $401,600 to secure biological data on sea scallops, whitings, flounders and ocean perch; to continue operation of the research vessel *Albatross III*

and to study the ocean environment of the offshore banks.

Herring, $71,900, studies on the biology of herring.

Gulf of Mexico fishes, $149,300, research on shrimp, sponges and red tide.

High seas research, $50,000, on stocks of king crab of the Bering Sea and North Pacific Ocean.

Tuna research in the Pacific, $216,500.

Commercial shellfishery research, $145,600 of which $85,000 was on New England oysters, $39,000 on Middle Atlantic oysters and $21,600 on oysters in the Gulf of Mexico. Menhaden research required $30,000 and $23,100 went to improve cultural methods for channel catfish.

The report shows that $1,385,000 has been allocated for most of these studies in the fiscal year ending June 30, 1956, but in varying amounts. New studies include investigation on Alaska salmon predators and effects of logging for which $108,300 has been allotted and another allocation of $32,000 for Atlantic striped bass studies. There will be no expenditure on king crab or sponges from Saltonstall-Kennedy funds in 1956.

A total of $351,500 was spent on exploratory fishing and gear research. For the current fiscal year ending June 30, 1956, $299,000 has been allotted for these studies. Maine sardine explorations in the past year cost $71,000; North Atlantic explorations cost $163,400. Both of these projects are being continued and about the same amounts have been allocated.

There was $78,000 spent on construction of a gear research vessel in the past year. Overhauling of the electrical system and the purchase of a radar set for the *Oregon* in the Gulf explorations was a $39,000 expense which will not be repeated in fiscal 1956, but $60,000 has been allocated for South Atlantic shrimp explorations in fiscal 1956 as contrasted with no expenditures for the past year.

Fish technological studies accounted for an expenditure of $424,000 in the year ending June 30, 1955 and $464,000 has been allocated for the present fiscal year ending June 30, 1956. The 1955 expenditures include $139,000 for the development of voluntary fishery products standards; $40,000 for research on handling, freezing and packaging southern oysters, $65,000 to develop an index for the nutritive value of fish meal; $170,000 to develop new uses for fishoil; and $10,000 on freezing skipjack tuna at sea. All of the programs have been extended into 1956.

Market development and fisheries education spent $304,300 in fiscal year 1955 and will have $315,000 in fiscal 1956. The recent education and market development program cost $167,000. The expanded program cost $137,300. This included expanded school lunch activities, locker plant studies and special marketing programs.

Maine Sardine Pack Smallest in 15 Years

The 1955 Maine sardine canning season closed with the pack estimated to be the smallest in 15 years, according to a news release from the Maine Sardine Industry. The final production figure is not available at this time but the industry's Executive Secretary stated that it will be about 1,230,000 standard cases (100 3¼ oz. cans to a case), less than half the average annual production during the past 14 years and only slightly more than the last short pack of 1,067,000 standard cases in 1940. Because of an every-other-year shortage which started in 1951, the industry has obtained Federal funds to supplement its own for a biological and exploratory research program which is being conducted under the direction of the Fish & Wildlife Service.

:PORT FROM WASHINGTON

(Continued from page 8)

"The basic purpose of this import quota proposal is to make it ıssible for domestic producers to live with import competition by setting ;ide a reasonable share of the market that may be supplied by imports.

"The measurement of imports is therefore put on the basis of what ırt of domestic consumption is supplied by them. The quota system would ıld this share in bounds by throwing a ceiling over it. It would, how-ver, permit imports to share proportionately in the expansion of the ırket; i.e., if consumption of a product should increase, so could ıports to the same degree.

"Imports, however, could not take over the market nor increase ıeir share if consumption should decline and surpluses pile up. Imports ıst share in this decline just as they share in any market expansion. In ıis way imports would be prevented from nullifying efforts of domestic ·oducers to cut back output in order to work off a surplus inventory.

"In the event of unforeseen shortage in domestic production, ıused by crop failure, disaster or other development, imports could be ıcreased beyond the quota limit temporarily until the conditions would ə corrected.

"The bill also provides for long-term adjustments after Tariff ɔmmission hearings, to avoid freezing the import pattern for all time.

"Another feature of the bill is its recognition of the great damage ıused by low-wage competition from abroad and the desirability of rais-ıg wage standards abroad so that such competition may gradually be ɛplaced. It does this by offering a higher or bonus quota to countries ıat have higher wage standards. By raising their own wage levels the ɔw-wage countries could gain such bonuses for themselves and thus move ıway from the most deadly competition.

"Import quotas would be imposed only in those instances where ıports have taken a large share of the market . . . Under such a quota ystem import competition could be stabilized and yet given a liberal cut f the total pie."

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ENERAL AGREEMENT ON TARIFFS AND TRADE.--The 10th session of the con-racting parties to the General Agreement on Tariffs and Trade, was con-luded in Geneva, Switzerland, December 3. In a press release reviewing ıe session, the State Department expressed the view that the meeting roduced encouraging indications that foreign governments are cooperating n the reduction of restrictions against United States goods which have een in use for balance-of-payments reasons.

Such restrictions have been significantly reduced during the cur-ent year, it was reported. Countries which have been restricting imports ecause of currency shortages are tending to employ internal fiscal and conomic measures, rather than import restrictions, to relieve pressure n their foreign exchange reserves. .

Other activities of the session of general interest included the ompletion of plans for the "fourth round" of tariff negotiations, begin-ing in Geneva in January, and the initiation of discussions looking toward he lifting of the reservations which some countries placed upon their rading relations with Japan at her recent accession to the General greement.

Upon the accession of Japan to the Agreement last September, 14 countries exercised their right to refuse to apply the Agreement between themselves and Japan. It was discussed at length during the session, both in the regular meetings and in private consultations between interested countries, in an effort to work toward a solution. The U.S. delegation urged the other countries to extend the full benefits of the Agreement to Japan in order to expand export opportunities for Japanese goods. The problem will be kept under continuous study and taken up again at intersessional meetings and at the 11th session which has been scheduled at Geneva beginning October 11, 1956.

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SALTONSTALL-KENNEDY ACT.--The Secretary of the Interior has issued the first annual report on research and activities under the Saltonstall-Kennedy Act, covering the fiscal year 1955, just ended. The report covers 125 pages and summarizes activities of the first year.

"The Secretary of the Interior was authorized under the Act to appoint an advisory committee of the American fishing industry to advise him in the formulation of policy, rules and regulations pertaining to requests for assistance, and other matters.

"Because of the loss of time necessarily taken up with administrative details, the first year's program was largely developed without the advice of the Committee. However, when the Committee met on April 28 and 25, 1955, it endorsed the activities already underway, and made recommendations for the expenditure of the remaining funds.

"So far, there have been received proposals for over 100 projects totaling about $10,000,000. Since the volume and cost of these proposals far exceed the funds available, extremely careful selection is necessary involving such criteria as the relative general need, the extent of the emergency, the relative size of the industry segment in question, whether the work should and could be performed by a state or local agency, etc.

"The Department has adopted the policy that qualified research agencies outside the Fish and Wildlife Service should be given the opportunity, wherever possible, to broaden their own fishery research potentialities by being offered contracts to conduct needed studies in their particular fields.

"Thus the Department has let about 60 contracts in every section of the country for over 40% of the year's funds . . . to universities, colleges, public institutions, and 13 commercial and independent scientific research organizations. These contracts cover about half of the $3,000,00 available each year."

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BIGEYE TUNA.--A Special Scientific Report by Edwin S. Iversen deals with size and growth of bigeye tuna. It includes a discussion of size variations in bigeye caught with longline gear in Hawaiian waters by local fishermen, in the western equatorial Pacific by Japanese mothership expeditions, and in the northwestern Pacific by the Japanese longline fishery.

From the Hawaiian data there are indications that bigeye may gain as much as 50 pounds in one year and may live to 6 or 7 years. A similari in growth rate and comparable changes in dominant size groups suggests a close relationship between the bigeye of the northwestern Pacific and those of Hawaii.

ne Sardine ituation

ontinued from page 13)

m the air near Hueneme. The ening of the southern California rson, on 1 October, found the fish ilable in numbers not seen since 51-52. More than 60,000 tons were ight. That was many times the pre- us season's catch.

These sardines were not members a large, new year class. Age com- sition studies showed that the 1952 1 1951 year-classes contributed out a thir deach. Of the remainder, 1948 year-class produced one- rd. These 1948 fish were surpris- ly small. They were the "little, l" fish that usually appear in only ignificant numbers off southern lifornia. They are fish that were awned and spent their first years Baja California.

The return of the sardines did not e the scientists by surprise. It had en pointed out in the last progress ort that "the success or failure of fishery in the immediate future ll be largely determined by the mber of sardines that may move from the Baja California waters into our fishing grounds."

One Big Final Question

The next question is, will the sardines return next season? And if so, in what quantities?

The first cruises of 1955 have shown the water is as warm as it was in 1954. By taking spot samples, it has been learned that in March and April there was extensive spawning off southern California. The fish surveys will tell where the sardines are. With this evidence. the scientists should be able by summer to predict whether enough sardines will be available to give the State a substantial fishery in the coming season. It is already known that the incoming year-class, that of 1953, is not a very good one. That is shown by the egg-and-larvae counts and by the young-fish surveys. The 1952 year-class stands out as the best spawned in these five lean years, being one and one-half times the size of any of the others. But this and the other year-classes present in the fishery may appear in sufficient numbers to insure a profitable catch.

Research lags events. It is still not known exactly whether other aspects of the ocean changed as strikingly as did temperatures in 1954, or if the food supply of the sardines changed. Scientists are working on these problems.

Without research, the revival of the industry in southern California would have been almost impossible to explain. Now it seems possible that the data will be on hand to explain several aspects of fluctuation in sardine populations and perhaps other fish populations. The information may eventually lead to accurate prediction of how many fish there are, where they are, and if they can be caught. *

Consumer Preferences

Fish "fare" better in the city than in the country.

In a nationwide survey the Fish and Wildlife Service has learned that residents of urban America show a greater preference for breaded fish sticks and breaded shrimp than do the residents of rural America. City residents also show a much higher preference for fish and shellfish served in restaurants than do residents of rural America.

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The GLOBE

An International News File Compiled from FOREIGN REPORTS

Brazil.—Spiny or rock lobsters are found in quantity off the Northeast coasts, or the area called the "Bulge" of Brazil. The production and marketing is still relatively unorganized here, and the techniques employed are primitive. The spiny lobsters are caught in basket-like traps, and most of the fishermen operate from balsa rafts.

The spiny lobster season lasts from September through February, and most of the catch is either sold locally or shipped cooked to Rio de Janeiro or Sao Paulo. There is also one small packing plant which cans a limited quantity of spiny lobster for sale within Brazil, and there have been some recent experiments with shipping chilled spiny lobster tails.

Colombia.—The Barranquilla cannery, one of two fish canneries operating on the Caribbean coast of Colombia, recently financed a seven-day experimental trip by a California fishing vessel off the northern coast between Cartagena and Santa Marta. The California purse seiner was sent out primarily for the local "flat herring" which this cannery cans as sardines.

Mexico.—During November and December excellent shrimp fishing was reported in the Gulf of Baja California. Imports of shrimp from Mexico into the customs districts of Arizona and California in November totaled 5,570,500 pounds an increase of 2,066,900 pounds, or 59%, as compared with the imports into the same two states for November 1954. Shrimp imports through these customs districts are indicators of Mexico's west coast shrimp catch. This development has been a boon to the shrimp industry of Mexico because the good catches came at a time when shrimp catches in the Gulf of Mexico were poor.

Newfoundland.—Among numerous other natural and cultural resources needing Federal assistance, the case of fisheries was presented to the Royal Commission of Canada by the Premier of Newfoundland. Prior to the beginning of the 20th Century, fishing was about the only industry that played an important part in the living standards of "Canada's poorest Province." Since then other industries, such as mining and forestry, have come to the fore, but the Premier asserted that the fisheries have a potential "greater than can be grasped by any living man." During the First World War over 40,000 men were engaged in the inshore fishery. In 1951 there were 19,000 so employed, and by 1954 that number had declined to about 16,700 men.

Norway.—The results of the 1955 herring season were announced at the Norwegian Herring Marketing Co-operative meeting in Bergen. The 1955 catch was 2,153 million pounds, valued at US$29.1 million, compared to the previous year's 2,399 million pounds, valued at US$29.4 million. In 1955, 1,646 million pounds of large herring and 472 million pounds of spring herring were taken, while the balance consisted of other types of herring. Exports of herring for 1955 have been satisfactory in both volume and price terms.

Portugal.—In a move to assist Portuguese tuna canning industry, the tax on the catch of tuna and tuna-like fish made by offshore vessels has been reduced by the Government from 7% ad valorem to about US$1.23 a metric ton. This new rate will apply only to the September-April season.

Replacement of the ad valorem rate by the lower rate is designed to enable offshore tuna fishing vessels to sell the catch profitably in the domestic market for canning or for export as frozen tuna. Heretofore, the relatively high ad valorem rate usually forced operators of seagoing fishing vessels to sell their catch in foreign markets, chiefly in Italy.

Portugal.—The northern fish canners have organized under the name of "Copnor-Conservas De Piexe, LDA.," to promote sales (possibly under a brand name) in the United States. Fish canners in Southern Portugal also have formed an organization for the same purpose.

Production and export figures in the first nine months of 1955 were better than those in the corresponding period of 1954; but in the winter catches diminished and fresh fish commanded rather high prices.

Russia.—Negotiations between Soviet Russia and Iceland towards a Trade Protocol for the calendar year 1956 were completed. The agreement was amended to include a provision for an increase in the overdraft authority from about US $615,000 to US $1,230,000. In exchange for various nonfishery products produced by Russia, the Icelanders have agreed to supply Russia with a substantial amount of fishery products.

Venezuela.—The Japanese tuna fishing boat, "Bozo Maru" arrived in Venezuela last month to engage in tuna fishing off the island of La Blanquilla, which is about 100 miles north of Barcelona. The boat will be operated by Japanese for a Venezuela-Japanese company.

Japanese fishermen have explored the fishing grounds in the Caribbean and are said to have found tuna in commercial quantities. It is believed that the Japanese vessel will fish with long lines.

ish and Wildlife Service...

PLANTING Larger Sport FISH

POLICY of distributing larger
fish and more of them, particu-
y trout, is one of the Fish and
dlife Service's answers to the
ion's increasing pressure for sport
ing, reports Secretary of the In-
or Clarence A. Davis. But the
blem of keeping up with the re-
rements for warm water sport
, especially large-mouth bass and
egills, is giving the Service con-
rable concern.

During calendar year 1954 the
vice distributed nearly four mil-
n sport fish six inches long or
ger. Most of these were trout. The
vice distributed 138,500,000 fin-
lings of which 80,000,000 were
non and 46,000,000 were warm
er fish.

The weight of the fish six inches and longer totalled 769,322 pounds, an increase of 157,000 pounds over the comparable plant of 1953, which in turn was greater than the plant of catchable size fish in 1952.

The total weight of fingerlings and fish exceeding six inches distributed in 1954—trout, salmon and warm water species—amounted to 1,399,304 pounds, approximately 225,000 pounds more than in 1953. The policy of planting larger fish even extended to the fingerling class with less numbers of fish but greater poundage being distributed.

Nearly one-third of the 1954 distribution, by weight, 576,826 pounds was made to State agencies to supplement the production and distribution of the State hatcheries.

The Fish and Wildlife Service operates 91 hatcheries. In the past ten years approximately five and one-half million dollars has been spent in construction of hatcheries and ponds. The weight of fish produced and distributed is two and a half times what it was ten years ago; the number of applications for fish has more than doubled. This increase in efficiency and in production is due in part to the modernization of fish cultural stations and the discontinuance of some stations which could not be expanded or modernized.

Total applications filled by the Service was 61,732 of which 55,443 were for stocking farm ponds. The Service also honored 1,170 applications for fish for lakes, 4,216 applications for streams and rivers and 903 applications for miscellaneous plantings. *

South Korea and Japan Quarrel About Fishing

According to the Associated Press, Japanese fishing interests have protested to the U.S. Embassy at Tokyo because they have been barred from fishing by South Korea from some of the best fishing waters of the Pacific. South Korea has threatened to fire on all Japanese fishing boats passing the so-called Rhee line, which extends as much as 60 miles from South Korea's shores.

U.S. Army Secretary Brucker made a special trip to Seoul to discuss the matter with President Syngman Rhee. The Secretary expressed the hope that the two allies would resolve the quarrel; he emphasized he was not a mediator, although the Japanese had asked for his help.

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Insuring the Present . . . and the Future

As in the Past . . . So in the Future

All Activities of the American Tunaboat Association

Are Directed to the Improvement and Prosperity

of the Tuna Industry

Joseph E. Penacho
President

Harold F. Cary
General Manager

AMERICAN TUNABOAT ASSOCIATION

No. 1 TUNA LANE • SAN DIEGO, CALIFORNIA

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Our Best Wishes for . . .

A HAPPY 1956

ALTHOUGH 1955 was not everything desired by most fishery interests, things are looking up for the future. Some of our most troublesome problems are being recognized and helpful solutions searched out — by both business and government authorities.

It is therefore with a feeling of hopefulness that we extend our best wishes to all segments of this industry for a Happy and Prosperous New Year. May 1956 bring real improvement in the general fishery situation!

Our efforts now and always are dedicated to the creation of bigger and better markets for canned tuna, and to advance the best interests of the entire tuna industry.

CALIFORNIA FISH CANNER
ASSOCIATION INC.

Breast-O'-Chicken, Inc. • California Marine Curing & Packing Company
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